CIHAK, A.; SKODA, J.; SORM, F.

Degradation of 5-azauracil and formation of N-formylbiuret, an inhibitor of biosynthesis of pyrimidine precursors of nucleic acids. Coll Cz Chem 28 no. 12:3297-3304 D '63.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

FUCIK, V.; CIHAK, A.

Reversion of the antimitot c effect of N-formylbiuret by ureidosuccimic acid and uracil in Allium cepa L.
Biologia plantarum 6 no. 2:117-121 '64.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague 6, Na cvicisti 2.

SKODA, J., doc. inz.; CIHAK, A., promovany chemik; SORM, F., akademik

Distribution and retention of a new coccidiostatic, 6-azauracil, in the tissue of chickens. Veter medicina 9 no. 2:81-86 Mr '64.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

CIHAK,A.; SKODA,J.; SORM.F.

Formation of 5-azauridine, ribosyl N-formylbiuret, ribosyl biuret, and their 5'-phosphated in Escherichia coli culture from 5-azauracil. Coll Cz Chem 29 no.1:300-308 Ja'64

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

CIHAK, A.; SKODA, J.; SORM, F.

Ribosylation and phosphoribosylation of 5-azauracil-2,4-^{14}C in a cell-free extract of Escherichia coli. Coll Cz Chem 29 no. 3:814-824 Mr '64.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

JINDRA, A.; CIHAK, A.; KOVACS, P.

Biosynthesis of alkaloids. Pt. 8. Coll Cz Chem 29 no.4:1059-1064 Ap '64.

1. Chair of Biochemistry and Microbiology, Faculty of Pharmacy, Bratislava and Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

CIHAK, A.; SKODA, J.; SORM, F.

Antagonism of N-substituted biuret derivatives and nucleic acid pyrimidine precursors. Coll Cz Chem 29 no.5:1322-1325 My '64.

[illegible]. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

SKODA, J.; CIHAK, A.; SORM, F.

Inhibition of the pyrimidine pathway by 5-azauracil, N-formylbiuret and its combination with 6-azauridine in Ehrlich ascites bearing mice. Coll Cz Chem 29 no.10:2389-2399 O '64.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

CIHAK, A.; SORM, F.

Interaction of 5-azauracil with uridine phosphorylase in the cell-free extract of mouse liver. Coll Cz Chem 30 no.1:324-334 Ja '65.

1. Institute of Organic Chemistry and Biochemistry of the Czechoslovak Academy of Sciences, Prague. 2. Advisory Board Chairman, "Collection of Czechoslovak Chemical Communications" (for Sorm).

CZECHOSLOVAKIA

CIHAK, A; SORM, F.

Institute of Organic Chemistry and Biochemistry of the Czechoslovak Academy of Sciences, Prague (for both)

Prague, Collection of Czechoslovak Chemical Communications, No 10, 1965, pp 3513-3519

"Inhibitory Effects of 5-Azaorotate in Escherichia coli."

L 1224-66

ACCESSION NR: AP5025848 CZ/0008/65/059/005/0601/0603

AUTHOR: Cihak, A. 10

TITLE: Carcinogenic activity of compounds used as therapeutic agents against malignant tumors and leukemia

SOURCE: Chemicke listy, v. 59, no. 5, 1965, 601-603

TOPIC TAGS: carcinoma, blood disease, tumor, chemotherapy, drug treatment, organic nitrogen compound

Abstract: Some agents used to suppress malignant growth may themselves lead to an appearance of such a growth; the best known example of such an action are the X-rays. Some of the agents used at present in medicine are discussed. The chemotherapeutical effects of simple nitrogenous yperites are reviewed. Special mention is given to chlorambucil (4-[p-(bis-2-chloroethyl)amino] phenylbutyric acid) and to melfalan (4-bis(2-chloroethyl)amino-phenylalanine. Results obtained with urethane in the treating of various diseases are described. The effects of estrogens, hormones, and antibiotics are discussed. Orig. art. has 5 formulas.

Card 1/2

L 1224-66
ACCESSION NR: AP5025848

ASSOCIATION: none

SUBMITTED: 00	ENCL: 00	SUB CODE: LS, GC
NO REF SOV: 000	OTHER: 001	JPRS

Card 2/2

CZECHOSLOVAKIA

CIHAK, A; VESELY, J; SORM, F

Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague - (for all)

Prague, Collection of Czechoslovak Chemical Communications, No 3, March 1966, pp 1124-1130

"Some features of the biological effect of 1,2,4-triazine methylthio derivatives."

CZECHOSLOVAKIA

CIHAK, A; TYKVA, R; SORM, F

Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague - (for all)

Prague, Collection of Czechoslovak Chemical Communications, No 7, July 1966, pp 3015-3019

"Incorporation of 5-azacytidine-4-[^{14}C] and of cytidine -[^{3}H] into ribonucleic acids of mouse Ehrlich ascites tumor cells."

CIHAK, Frantisek, ins.

Modern rolling and finishing trains in cold rolling mills.
Tech praca 14 no.12:950-954 D '62.

1. Hutni projekt, Plzen.

L 10908-65 EWP(t)/EWP(b) JD

ACCESSION NR: AP4049759 S/0057/64/000/007/0328/0331

AUTHOR: Cihak, F. (Engineer)

TITLE: First stage of construction of steel mills at the iron works of Eastern Slovakia

SOURCE: Hutnik, no. 7, 1964, 328-331

TOPIC TAGS: steel industry, steel, industrial planning

ABSTRACT: At present there is a shortage of steel plate in Czechoslovakia, and at the same time the quality of the plate leaves a lot to be desired. Therefore the new steel mill of Eastern Slovakia is urgently needed. The author decribes the main features of the works, which include pickling, rolling, heat treatment, cutting apparatus, tin plate production, and the necessary auxiliary plants. Plate 0.2 mm to 1.0 mm thick, in widths of 500 to 1000 mm will be produced. Pickling is made with sulfuric acid, rolling unit has 5 rolls, heat treatment can be made in an

Card 1/2

L 10908-65
ACCESSION NR: AP4049759

atmosphere of inert gas, plate polishing is made on a two-roller system. Plate cutting installation is described. Heat tin plating is installed. Description of auxiliary facilities is given.

ASSOCIATION: Hutni projekt, Prague (Metallurgical Project)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, GO

NO REF SOV: 000 OTHER: 000 JPRS

Card 2/2

CIHAK, J.; DONNER, L.; DVORAK, L.; DVORAKOVA, H.; JEZEK, Vl.; KAFKA, H.; KOTATKO, J.; MALY, Vl.; REINIS, Z.

Effect of anticoagulant therapy on the mortality in myocardial infarct during first 6 weeks. Sborn.lek. 62 no.10:281-286 O '60.

1. I. interni klinika fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. V.Hoenig. II. interni klinika fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. Fr. Herles. III. interni klinika fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta akademik J.Charvat. IV. interni klinika fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. M Fucik. Interni oddeleni fakultni polikliniky v Praze 2, prednosta prof. dr. K.Herfort. Ustav organizace zdravotnictvi fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. V.Prosek.
(MYOCARDIAL INFARCT ther)
(ANTICOAGULANTS ther)

ZAHN, K.; CIHAK, J.; PECENY, J.

Aneurysms of the retinal arteries. Sborn. lek. 67 no.6:206-210 Je'65.

1. I.ocni klinika fakulty vseobecneho lekarstvi University Karlovy v Praze (prednosta: prof. dr. E. Dienstbier, DrSc.); Interni oddeleni fakultni polikliniky v Praze (vedouci: prof. K. Herfort, DrSc.); a Vyzkumny ustav endokrinologicky v Praze (reditel: doc. dr. K. Silink, DrSc.).

CZECHOSLOVAKIA
25 Jun 66

CIHAK, Jaroslav

Lieut.Gen., chief, Military Office of the President of the Republic, interviewed by Obrana Lidu, Prague, 25 June [Photo of Cihak is given]

Obrana Lidu, Prague, 25 Jun 66, p 1.

(1)

CIHAK, J.

CIHAK, J. Abolishing shortcomings in the build-up of the Czechoslovakia raw materials base. p. 489.

Vol. 5, No. 11. Nov. 1955
ZA SOCIALISTICKOU VEDU A TECHNIKU
TECHNOLOGY
Praha, Czechoslovakia

So: East Europeon Accession, Vol. 5, May 1956

CIHAK, J.

A report concerning the conference on extracurricular forms of education. p.382. PRAGUE. Ustredni ustav geologicky, Knihovna. VYBER NOVINEK Z PERIODICKE, MINERALOGICKE A VED PRIBUZNYCH. Praha. Vol. 5, no. 6, June 1956.

SOURCE: East European Accessions List, (EEAL), Library of Congress, Vol. 5, no. 12, December 1956.

CIHAK, J.

Some problems of stabilizing the labor force in mining. p. 185.

UHLI (Ministerstvo paliv) Praha, Czechoslovakia. Vol. 1, no. 6, June 1959

Monthly list of East European Accessions (EEAI), Vol. 9, no. 1, Jan. 1960

Uncl.

VOKAC, V.; CIHAK, M.

Automatic apparatus for permanent, quantitative withdrawal of biological secretions. Cesk. gastroent. vyz. 17 no.7: 435-438 N'63

1. Ustav pro vyzkum vyzivy lidu v Praze; reditel prof. dr. J. Masek, DrSc.

L 12973-66 EWT(d)/T/EWP(1) IJP(c)
ACC NR: AP6005660 SOURCE CODE: CZ/0079/65/007/002/0170/0171

AUTHOR: Cihak, P.

ORG: Department of Mathematical Analysis, Faculty of Physics and Mathematics, Charles University, Prague

TITLE: Mathematical model of activation of the brain cortex and reflex evocation [This paper was presented at the Third Interdisciplinary Conference on Experimental and Clinical Study of Higher Nervous Functions held in Marianske Lazne from 19 to 23 October 1964.]

SOURCE: Activitas nervosa superior, v. 7, no. 2, 1965, 170-171

TOPIC TAGS: cerebral cortex, neurophysiology, differential equation, partial differential equation, La Place equation

ABSTRACT: Physiological conceptions of the process of cortical activation cannot be expressed mathematically at present. A deductive method based on mathematical abstractions that describes the cortical activation is discussed. The relationship of eliciting reflexes is described in mathematical terms. The transmission of activation to the brain cortex can be expressed by the Laplace differential operation. The cortical arousal level can be determined as a solution of partial differential diffusion-equations with sources assuming the initial level and the course of the activation to be known. This allows the introduction of quantitative concepts, e.g., the tone of cortical arousal. The con-

Card 1/2

L 12973-66

ACC NR: AP6005660

cept of irradiation speed of arousal is established. This characterizes the speed of the reflex elicitation. [JPRS]

SUB CODE: 06, 05 / SUBM DATE: none

Card 2/2

CIHAK, R.

Development of the dorsal interossei in the human hand. Cesk. morf. 11 no.3:199-208 '63.

1. Department of Anatomy, Medical Faculty, Charles University, Prague Director Prof. Dr. L. Borovansky, Sc Dr.
(HAND)

CIHAK, R.

The latissimus dorsi muscle in human ontogenesis. Sborn. lek. 65 no.1:21-26 Ja '63.

1. Anatomicky ustav fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. L. Borovansky, DrSc.
(MUSCLES) (AGING)

BRUCKOVA, Z., Dr.; CIHAK, R., Dr.

Clinical and anatomical considerations on surgery of congenital manus vara. Acta chir. orthop. traum. cech. 23 no.4:219-223 July 56.

1. Z II kliniky pro orthopedickou a detskou chirurgii v Praze, prednosta prof. Hnevkovsky, a z anatomickeho ustavu KV v Praze, prednosta prof. Borovansky.

(HAND, abnormalities
manus vara, surg. (Cz))

BETKA, Cenek; STRACHOTA, Antonin, inz.; CIHAK, Radim

On standardization of thermal treatment techniques.
Pod org 17 no.5:204-207 My '63.

1. Tovarny na obrabeci stroje Celakovice (for Betka)
2. Statni vyzkumny ustav materialu a technologie, Praha
(for Strachota)
3. Technicko-organizacni vyzkumny ustav strojirensky (for Cihak).

CIHAK, Radomir; EISELT, Bohumil; FLEISCHMANN, Miroslaw.

Reconstruction of thumb opposition by intrinsic hand muscles. Acta Univ. Carol. [med.] (Praha) 9 no.1:3-26 '63

1. Department of Anatomy , Faculty of General Medicine, Charles University in Prague (Director: prof. L. Borovansky, M.D., Dr.Sc) and Orthopaedic Section of the Central Military Hospital in Prague-Stresovice (Director: B. Eiselt, M.D.).

CIHAK, Radomir; PUZANOVA, Ludmila

From and position of the patella and architectural pattern of the quadriceps femoris in fetal life. Cs.morfologie 8 no.1:15-23 '60. (KRAI 9:5)

1. Anatomicky ustav fakulty vseobecneho lekarstvi Karlovy university, Prague.

(PATELLA) (FEMUR)

EISELT, Bohumil, plukovnik MUDr.; CIHAK, Radomir, doc. MUDr. CSc.; FLEISCHMANN, Miroslav, podplukovnik MUDr.

Contribution to the technique of blood collecting from cadavers. Voj. zdrav. listy 34 no.3:105-108 Je '65.

1. Z traumatologicko-ortopedickeho oddeleni UVN a Anatomickeho ustavu fakulty vseobecneho lekarstvi Karlovy University v Praze.

CIHAK, Radomir.

The origin of interosseous muscles of human hand. Cs morfologie 8 no.3:183-194 '60. (EEAI 9:10)

1. Department of Anatomy, Medical Faculty of the Caroline University, Prague. Director: Prof. Dr. L.Borovansky.
(HEAD)
(MUSCLES)

CIHAK, Radomir; POPELKA, Stanislav

Partial defects of the pectoralis major muscle; morphological and clinical study. Acta chir.orthop.traum.cech. 28 no.3:185-194 Je '61.

1. Anatomicky ustav FVL Karlovy university v Praze, prednosta prof. dr. L. Borovansky II.klinika pro ortopedickou a detskou chirugii v Praze, prednosta prof. dr. Hnevkovsky.

(MUSCLES abnorm)

CIHAK, R.; HNEVKOVSKY, O.

Development of the latissimus dorsi muscle and the use of its parts. Morphology and clinical study. Acta chir orthop traum cech 30 no. 1:3-13 F '63.

1. Anatomicky ustav fakulty vseobecneho lekarstvi KU v Praze, prednosta prof. dr. L. Borovansky.
II. klinika pro ortopedickou a detskou chirurgii faculty detskeho lekarstvi KU v Praze, prednosta prof. dr. O. Hnevkovsky.

(MUSCLES) (FETUS)

L 8388-65 EWT(m)/EWP(q)/EWP(b) Pad ASD(m)-3 JD/HM/JG/WB

ACCESSION NR: AP4041521 Z/0065/64/000/003/0289/0302

AUTHOR: Cihal, Vladimir (Chigal, Vladimir); Mechura, Jaroslav (Mekhura, Yaroslav); Prazhak, Milan (Prazhak, Milan) B

TITLE: The effect of chromium, molybdenum, tungsten, and iron on the electrochemical and corrosive properties of Ni-alloys in the active state

SOURCE: Kovove materialy, no. 3, 1964, 289-302

TOPIC TAGS: nickel alloy, binary nickel alloy, nickel molybdenum alloy, nickel copper alloy, nickel chromium alloy, nickel tungsten alloy, nickel iron alloy, corrosion resistance, alloy corrosion resistance, nickel alloy corrosion resistance

ABSTRACT: The effect of chromium (2.55—21.14%), molybdenum (2.78—30.60%), tungsten (0.84—11.12%), and iron (6.38—42.70%) on the electrochemical and corrosion behavior of nickel in the active state has been investigated. The alloys were melted in a high-frequency induction furnace and were annealed at 1150C for 30 min and water quenched. Corrosion tests were conducted in boiling diluted

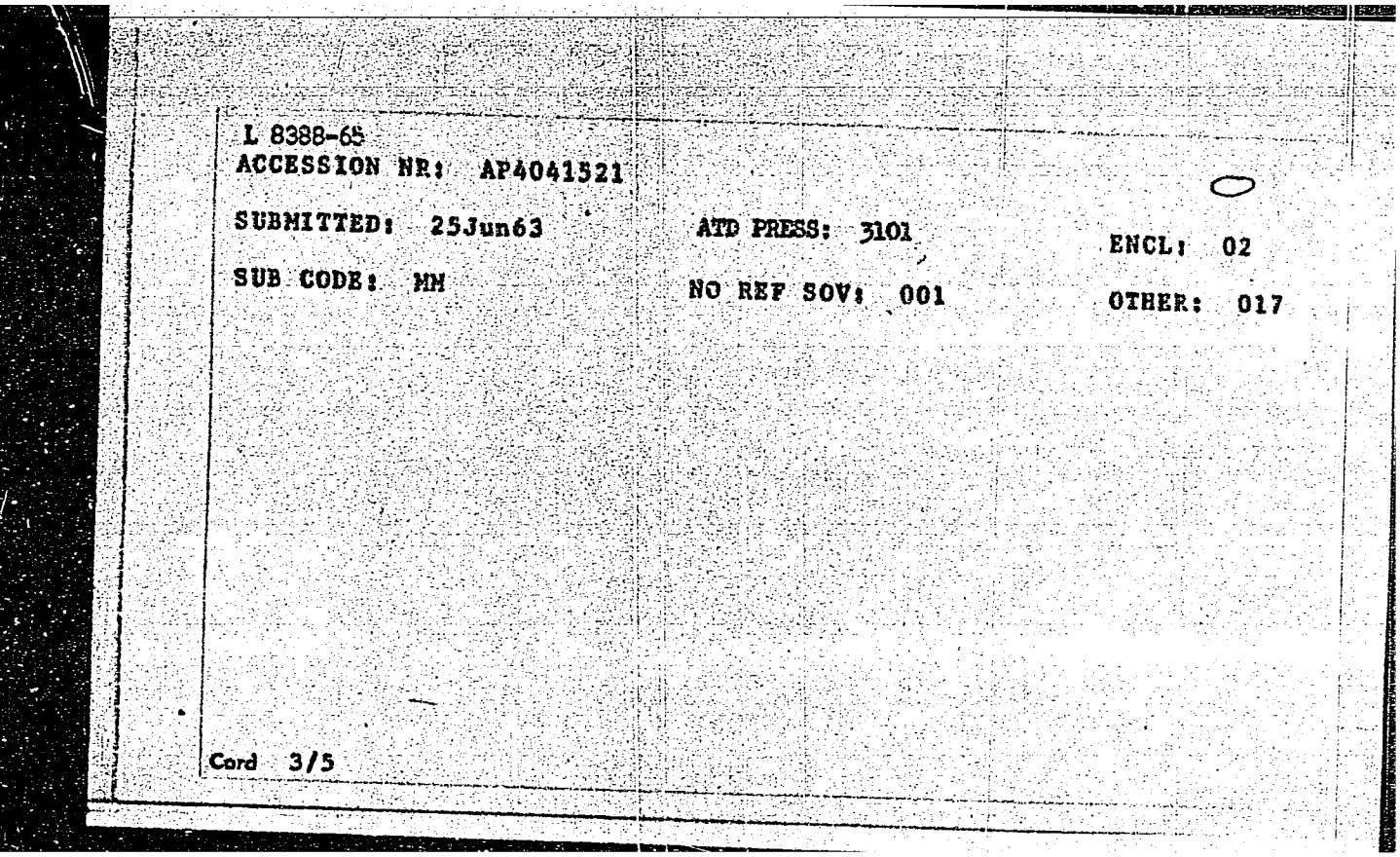
Card 1/5

L 8388-65
ACCESSION NR: AP4041521

hydrochloric acid. The width of the immunity zone and the potential of overvoltage Er were determined in 2n HCL + 0.01% KCNS. Molybdenum and copper were found the most beneficial alloying elements. They increase the corrosion resistance of nickel in the active state, raise the overvoltage, and widen the immunity zone (see Fig.1 &2 of the Enclosure). Tungsten extends the zone of immunity and increases the overpotential, but somewhat less than does molybdenum. However, the results of corrosion tests of nickel-tungsten alloys cannot be considered reliable. Chromium and iron lower the corrosion resistance of nickel in the active state. The positive effect of molybdenum confirms the importance of this element for the development of alloys of the NiMo30 type. Orig. art. has: 8 figures and 1 table.

ASSOCIATION: Statni vyzkumny ustav ochrany materialu G. V. Akimova, Prague (State Research Institute for Material Protection) Prague

Card 2/3



L 8388-65
ACCESSION NR: AP4041521

SUBMITTED: 25Jun63 ATD PRESS: 3101 ENCL: 02

SUB CODE: MM NO REF SOV: 001 OTHER: 017

Card 3/5

L 8388-65
ACCESSION NR: AP4041521

ENCLOSURE: 01

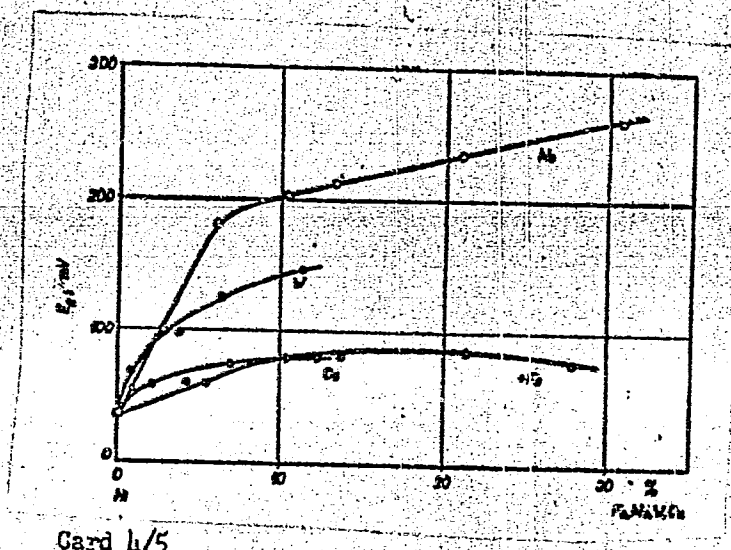


Fig. 1. Effect of molybdenum, copper, tungsten, and iron on the potential beginning of anode dissolution

Card 4/5

L 8388-65
ACCESSION NR: AP4041521

ENCLOSURE: 01

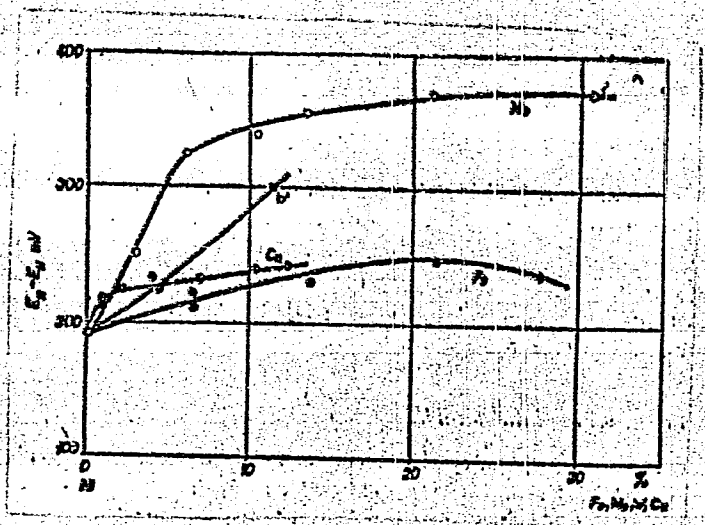


Fig. 2. Effect of molybdenum, copper, tungsten, and iron on the width of immunity zone

Card 5/5

3716. RESONANCE OVERVOLTAGE CAUSED BY BREAKING ONE H.V. FUSE ON THREE-PHASE TRANSFORMERS. 621.314.2.015.4

G.Slavík and V.Čihák.

Elektrotech. Obzor, Vol. 44, No. 1, 12-16 (1955). In Czech.

Overvoltage under these conditions can occur in parts of the line working under reduced load. The paper presents a theoretical analysis of the phenomenon and quotes Czech Standards for no-load current and for saturation figures of the transformer core in order to show that the overvoltage can be 2.8 x the rated voltage, should the capacitance current and the magnetizing current approach the same value. Overvoltage danger increases with higher line voltage and lower rated transformer power. A list of recommendations for preventing sustained resonance overvoltages is given.

J.C.Stark

Czechoslovakia

CIHAK, V.

Resonanzueberspannungen an Drehstrom-Umspannern beim einphasigen Ansprechen von Hochspannungssicherungen.

SO: Elektrotechnische Zeitschrift, 1 February 1956, Unclassified.

CIHAK, V.

"Measurement of magnetic properties of metal sheets by means of alternating current."

p. 537 (Elektrotechnicky Obzor) Vol. 46, no. 10, Oct. 1957
Prague, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4, April 1958

CIHAK, V.

TECHNOLOGY

ELEKTROTECHNICKY OBZOR.

CIHAK, V. Sixtieth birthday of Gabriel Slavik. p. 658.

Vol. 47, no. 12, Dec. 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 5
May 1959, Unclass.

STETKA, Karel; CIHAK, Zdenek

Why should we have unified numerical classifiers of branch products? Podn org 18 no. 3:101-103 Mr '64.

1. Technical and Organizational Research Institute of the Machine Industry.

4111. Polarographic titrations of organic bases. IV. Complex mercury compounds and Reinecke salt as volumetric reagents. V. Michalová and J. Zýka (Inst. Anal. Chem., Charles Univ., Prague, Czechoslovakia). *Collect. Czech. Chem. Commun.* 1956, 21 (10), 1372–1377. — Soln. of K_2HgI_4, K_2HgBr_4, and $K_2Hg(SCN)_4$ were investigated as reagents for polarographic titration of organic bases in [illegible] K_2HgI_4 [illegible] KNO_3 or 0.1 *M* H_2SO_4), as supporting electrolyte. Cinchonine and narcotine hydrochloride were thus determined. Reinecke salt I gives an [illegible] corresponding to the thiocyanate [illegible] a cathodic wave with $E_{\frac{1}{2}}$ approx. −0.9 V (corresponding to the reduction of the Cr^{III} complex). A [illegible] was not yet [illegible] was performed [illegible] H_2SO_4 with 0.05 *M* I. The results are satisfactory for analytical purposes in only some cases, but in all instances the ratio of base to reagent in the ppt was determined. J. Volka

ZAHRADNICEK; SCHELLEROVA CIZ; BOHM; FRIMLOVA; CIHAL

Reports. Listy cukrovar 80 no.9:256,2 of cover, 3 of cover S '64.

BOHM; VOKOUNOVA; CIHAL; CIZ; ZACEK; BOUCEK.

Reports. Listy cukrovar 79 no.7:183-184 Jl'63.

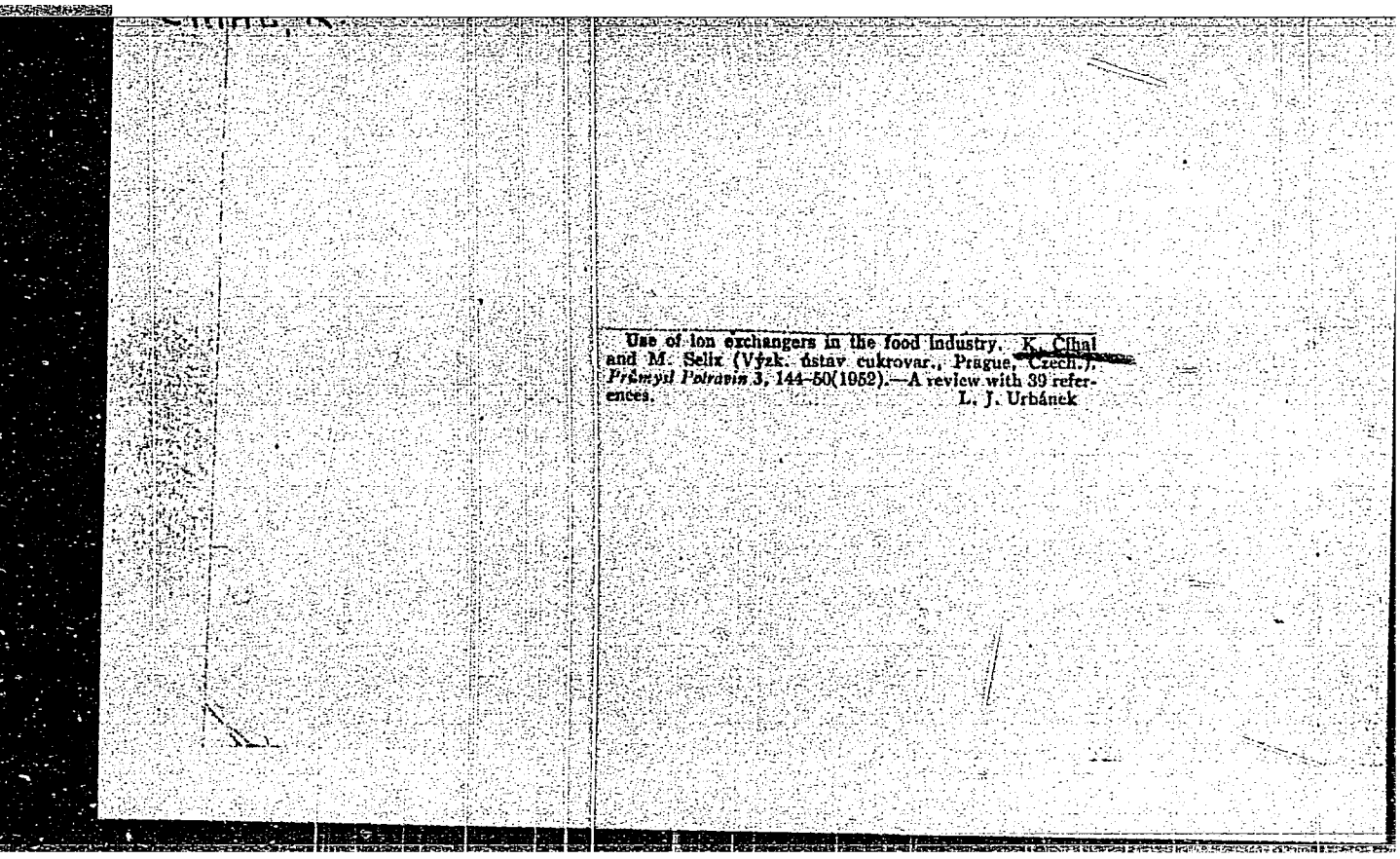
RADIL, Otakar; CIHAL, Jaroslav

Operational experience with the OR 1 signal relay. Zel dop tech 10 no.10:309 '62.

CA CIHAL, K.

The use of ionexes in sugar technology. K. Čihal. *Listy Cukrovar.* 65, 235-12(1949).—Č. tabulates the chem. equivs. and properties of 55 ionexes chiefly aldehyde-phenols, sulfonated coals, sulfonated styrenes, sulfonated phenol-methylenes, sulfonated nuclei, silicas, alumina-silicas and special adsorbents for O, Cl, dyes, and org. substances with a high mol. wt. Several com. trials of available ionexes in sugar mills have increased the quotient of purity from 90 to 97, removed 77% and more of the nonsugars, reduced the consumption of S, lime, coke, yielded desirable products as $(NH_4)_2SO_4$, pectins, glutamine, or glutamic acid, prevented incrustations in evaporators, reduced the colloidal substances in juices, and eliminated undesirable bacteria from liquors. However promising the ionic exchange may be technologically, the cost of installing ionex stations, the high price of ionexes, and the risk of increasing the invert sugar retards the introduction of this process in sugar establishments.

Frank Maresh



Use of ion exchangers in the food industry. K. Cihal and M. Selix (Výzk. ústav cukrovar., Prague, Czech.). *Průmysl Potravin* 3, 144–50(1952).—A review with 39 references. L. J. Urbánek

CIHAL, K.

— Ion-exchangers for isolation of technically important substances from molasses. I. Buriánek, M. Selix, and K. Cihal (*Průmysl Potravin*, 1953, 4, 220–222; *Sug. Ind. Abstr.*, 1953, 15, 102).— In tests with aq. glutamic acid, max. adsorption on a H-ion cation exchanger was obtained at pH 2·5—3·3. The presence of KCl did not affect the adsorption; on regeneration of the exchanger with HCl, K ions were eluted first; glutamic acid was easily eluted by KOH at a low flow-rate. The adsorption in presence of K lactate reached a max. at 1% of the wt. of exchanger for glutamic acid, and 6% for betaine; further percolation of solution caused desorption. In tests with molasses diluted to 20° Brix, with percolation whilst the effluent pH rose from 5 to 8, elution of all NH_3-acids and betaine was best carried out with KOH, the exchanger being finally regenerated with HCl. A second percolation through the

after calving before weekly yields fall to 50% of the max.) showed a similar relationship at the 5% level. Milking rates affected the lactation yield through the above three factors, only slightly affected the composition of the milk, and are probably hereditary characteristics. The significance of these findings is considered.

P. S. ARUP.

CIHAL, KAREL

Czechoslovakia/Chemical Technology - Chemical Products and Their Application. Carbohydrates and Refinement, I-26

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63503

Author: Cihal, ~~Karel~~; Valter, Vladimir

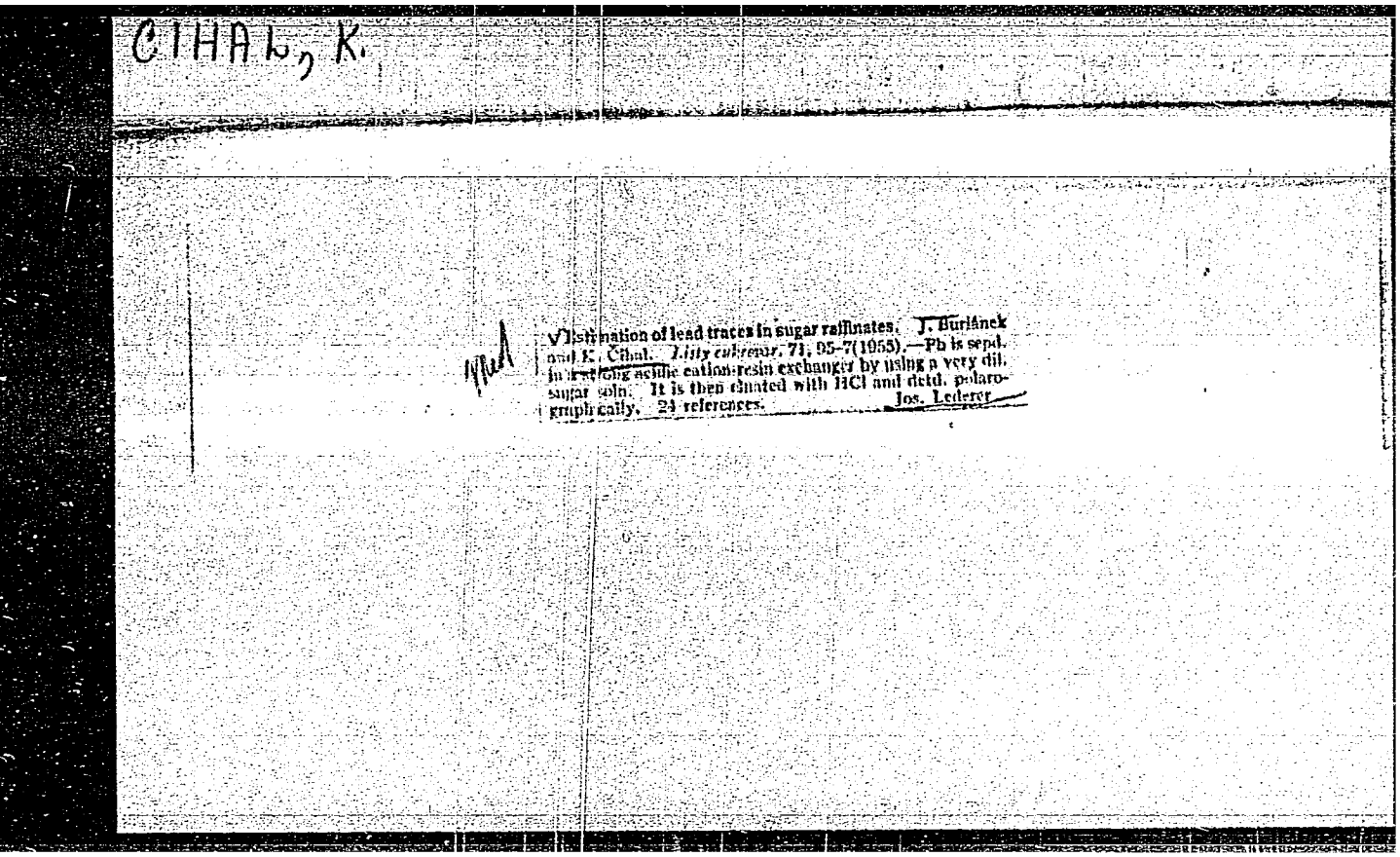
Institution: None

Title: Current State of the Utilization of Ion-Exchangers in Sugar Manufacture

Original Periodical: Dnesni stav pousiti menih iontu v cukrovarnictvi. Listy cukrovarn., 1955, 71, No 7, 175-177; Czech

Abstract: Review article characterizing the advantages and disadvantages of various procedures for purifying juices in sugar production. Data are presented concerning the use of ion-exchangers for decolorization of juices and the new methods of regeneration of ion-exchangers.

Card 1/1



ČIHAŁ, K.

Determination of lead traces in sugar raffinates. J. Buriánek and K. Čihal. *Listy cukrovar.* 71, 95–7(1955).—Pb is sepd. in strongly acidic cation-resin exchanger by using a very dil. sugar soln. It is then eluated with HCl and detd. polarographically. 24 references. Jos. Lederer

CIVAL, K.

Importance of the automatic pH regulation in food industry. Principles of the pH regulation and the arrangement of the range of regulation. p. 303. PRUMYSL POTRAVIN. (Ministerstvo potravinarskeho prumsly) Praha Vol. 7, no. 7, 1956.

SOURCE: East European Accessions List,(EEAL), Library of Congress Vol. 5, no. 12, December 1956.

ČIHAL, Karel

The theory of final carbonation. I. Use of a Warburg apparatus to follow the course of final carbonation. Josef Burišnek, František Durdík, and Karel Čihal. *Listy Cukrovar.* 72, 13–5(1956)(German summary).—The authors analyzed juices for Ca, by titration with 0.1*N* complexon III, while CO_3^{--} and HCO_3^- in the soln., and CO_2 in the atm. were detd. with a Warburg app. They took 1 ml. of sample, released CO_2 by adding 0.5 ml. of 2*N* HCl, and measured it at 25° in O or N atm. CO_2 of the atm. was absorbed by an alkali soln., and was detd. analogously. The following equation was developed $S(A) = S(A)_0 - 2[Ca]_0 + 2[Ca]$, where $S(A)$ is the amt. of atm. CO_2 absorbed, $S(A)_0$ the value of $S(A)$ at a definite alky. A_0, $[Ca]_0$ the concn. of Ca salts at A_0, and [Ca] the concn. of Ca salts depending upon the alky. of the soln. Alky. is at the min., a CaO concn. of around 0.02%. II. Criterion for the minimum rise of calcium carbonate after the final carbonation. Josef Burišnek and František Durdík. *Ibid.* 136–40.—B. and D. derived equations showing that the alky. A_0 at end carbonation is reached when $[Ca][CO_3]$ is at a min. This state was attained by evapn., change of temp. or, if $CaCO_3$ was pptd., by partial redissolving so that the corresponding condition of the reaction $Ca^{++} + CO_3^{--} \rightleftarrows CaCO_3$ was reestablished. Exptl. results were in agreement with these considerations.

T. Jurecic

3

5000

CIHAL, K.

Thickening of the suspensions of solids from sugar juices and waste water by means of

(Listy Cukrovarnicke. Vol. 6, no. 22-23, Nov.-Dec. 1957, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2,
February 1958

CIHAL, K.

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and Their Application. Control and Measuring Devices. Automatic Regulation. H-3

Abs Jour : Ref Zhur - Khimiya, No 3, 1958, 8339

Author : Cihal K.
Inst : -
Title : Practical Utilization of Automatic pH-Regulators in the Food Industry and in Conditioning of Industrial and Feed Water.

Orig Pub : Prumysl potravin, 1957, 8, No 5, 235-238

Abstract : Description of automatic systems for the regulation of pH of boiler-feed water and industrial water, in particular in sugar refineries utilizing continuous diffusion. Comparison of glass electrodes and antimony electrodes (automatically cleaned with brushes) shows that the glass electrodes yield more accurate data but their useful life is considerably shorter.

Card 1/1

CIHAL, KAREL.

CZECHOSLOVAKIA/Chemical Technology, Chemical Products and Their Application, Part 3. - Carbohydrates and Their Treatment. H-26

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 48359

Author : I - Josef Burianek, Frantisek Durdik, Karel Cihal; II - Josef Burianek, Frantisek Durdik.

Inst : -

Title : Upon the Theory of Last Saturation. I. Application of Warburg's Instrument to Last Saturation Control. II. Deduction of Criterion of Minimum Formation of Calcium Carbonate in Last Saturation Juice.

Orig Pub : Listy cukrovarn., 1957, 72, No 6, 133-135, 136-140.

Abstract : I. A method of determination of the amount of CO_2 bound in the last saturation juice and of the concentration of weak bases in the atmosphere of CO_2-gas was developed using Warburg's instrument. The results of experiments are shown in tables and graphs. A criterion for judging the minimum formation of insoluble $CaCO_3$ in the last saturation juice is established.

Card 1/2

CZECHOSLOVAKIA/Chemical Technology, Chemical Products and Their Application, Part 3. - Carbohydrates and Their Treatment. H-26

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 48359

II. It is shown theoretically and experimentally that there is at the last saturation such a juice basicity, at which $CaCO_3$ is forming in the least amount. The attainment of such basicity depends neither on the reaction equilibrium, nor on the temperature and density of the juice.

Card 2/2

CIHAL, KARL

CZECHOSLOVAKIA/Chemical Technology, Chemical Products and Their Application, Part 3. - Carbohydrates and Their Treatment. H-26

Abs Jour: Referat. Zhurnal Khimiya, No 10, 1958, 34099.

Author : Karl Cihal, Karl Ciz.
Inst : Not given.
Title : Present State of Drying and Briquetting Pressed Pulp and Other Fodder in Sugar Industry.

Orig Pub: Listy cukrovarn., 1957, 73, No 11, 249-255.

Abstract: A review of theoretical foundations of drying processes, drying methods and chemical composition of dry pressed pulp (pure and mixed with molasses). The processing schemes, construction and characteristics of equipment for drying and briquetting of sugar manufacture refuse

Card : 1/2

CZECHOSLOVAKIA/Chemical Technology, Chemical Products and Their Application, Part 3. - Carbohydrates and Their Treatment. H-26

Abs Jour: Referat. Zhurnal Khimiya, No 10, 1958, 34099.

are described; Heat indices of driers are presented, Bibliography with 59 titles.

Card : 2/2

/2

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and Their Applications - Carbohydrates and Their Processing. H.

Abs Jour : Ref Zhur - Khimiya, No 11, 1958, 37722

Author : Cihal K.
Inst : -
Title : Newest Viewpoint on the Chemistry of Second (Final) Saturation.

Orig Pub : Listy Cukrovarn., 1957, 73, No 11, 255-258

Abstract : A survey article about the developments and latest research results of the studies of saturation processes of sugar solutions and syrups was presented. Diagrams and research results of Brigell-Muller and Jackson's saturation theory were quoted. The effect of : saccharose, aminoacids, pH and other factors on the saturation of artificial sugar solutions and industrial syrups, was described.

Card 1/1

CIHAL, K.

CZECHOSLOVAKIA/Carbohydrates and Their Reprocessing. H.

Abs Jour : Ref Zhur - Khimiya, No 19, 1958, 65750

Author : Cihal Karel
Inst : -
Title : The Construction of Hydrocyclones and Further Experiments with Their Use in Sugar Cane and Sugar Beet Production.

Orig Pub : Listy cukrovarn., 1958, 74, No 3, 65-68

Abstract : This report concerns foreign and Czechoslovakian performance and experimental reproduction tests on the construction and use of standard hydrocyclones (H) (in particular, concering the proportions of basic dimensions, adjustments for the elimination of air inflow through the lower drain hole for the concentrated suspension). Materials containing sand and siliceous inclusions strongly errode the cylindrical part of H in the area of the suspension's entry with a pressure of 20-30 m water column. Such material (kaolin with siiica)

Card 1/3

H.

CZECHOSLOVAKIA/Carbohydrates and Their Reprocessing.

Abs Jour : Ref Zhur - Khimiya, No 19, 1958, 65750

renders the H unsuitable after 4 weeks' operation; an H of porcelain, after 10 weeks of work on such material, is found only a little eroded in the area of the suspension enty; after covering this zone of H with a soft layer of natural rubber for 9 weeks of work, the errosion of the protective covering reached only 1.8 mm. An exceptionally good material for the manufacture of protective coverings is fused or recrystallized basalt, the stability of which is 6 times higher than alloyed steel. The material of which H is manufactured influences the dimensions of divided particles: porcelain H can separate the particles into 25 , the rubberizing to 40-60μ. From the colloidal suspensions, 3μ particles are separated in H from bakelite or polyamide. Experiments in purifying liquor from the sand of sugarcane production with the use of the Dorklon 4-step H

Card 2/3

CZECHOSLOVAKIA/Carbohydrates and Their Reprocessing. H.

Abs Jour : Ref Zhur - Khimiya, No 19, 1958, 65750

confirmed the possibility of removing impurities to 95%. In another case, in a 2-stage station (with rubberized protection) for 24 hours, 2.5 t of impurities were extracted. In the 2-stage apparatus, H purifies the lime milk of the sand (the scheme is described). The capacity of the first stage of the apparatus was 2.5 m^3/hr of milk, and the loss of sugar was < 0.005% according to the weight of beet. From the second stage H, concentrated impurities were withdrawn at the rate of 0.1 m^3/hr. Purified lime milk contained only traces of sand. Purification of liquor of I saturation of the sugar beet plant did not give positive results. Liquor of II saturation was purified satisfactorily to 90%, but was found muddy (0.004% CaO) and needed final purification in filters.

Card 3/3

CZECHOSLOVAKIA / Chemical Technology. Chemical Products and Their Applications. Carbohydrates and Their Processing. H-26

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 9922.

Author : Filipczak, I., Cihal, K., Stamberg, J.
Inst : Not given.
Title : Polyelectrolytes as Coagulants in the Sugar Industry. I. Their Application in the Cane Sugar Industry in Treatment of Process and Drainage Waters.

Orig Pub: Listy cukrovarn., 1958, 74, No 4, 88-91.

Abstract: An article reviewing properties of synthetic polyelectrolytes (PE). Rates of PE are indicated for agricultural improvement of soil structure, for purifying process and drinking water, waters from hydrotransporters and wash-

Card 1/2

CZECHOSLOVAKIA / Chemical Technology. Chemical Prod- H-26
ucts and Their Applications. Carbo-
hydrates and Their Processing.

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 9922.

Abstract: waters; on addition of 0.1% PE purification of waters reached 100%, which was verified in Czechoslovakia in 1957. The successful industrial application of PE is noted in purifying sugar cane juices; application of PE within the range of 0.4-2.0 mg% increased the rate of clarification 80-fold, and the volume of the precipitate was decreased by 50%. Preliminary experiment with Czechoslovakian PE (VUSPL from Pardubitse plant) confirmed the marked effectiveness of PE for purification of juices in beet-sugar plants, especially when poorly filtering products are handled and for precipitating poorly soluble Ca salts in the diffusion juice. -- N. Bakanov.

Card 2/2

CZECHOSLOVAKIA / Chemical Technology. Carbohydrates and Their Processing. H-26

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 79240.

Author : Cihal, K.
Inst : Not given.
Title : The Hot Washing of an Evaporator.

Orig Pub: Listy cukrovarn., 1958, 74, No 5, 99-102.

Abstract: Laboratory experiments were conducted in order to reveal the most effective inhibitors, hindering the corrosion of the evaporators used in sugar factories when the evaporators were treated with hydrochloric acid at elevated temperature. Among the others the inhibitors produced in Czechoslovakia were tested: S-9 which is a protein hydrolyzate, and DBS - a blend containing 10% of dibenzylsulfoxide. The technique: steel strips

Card 1/4

CZECHOSLOVAKIA / Chemical Technology. Carbohydrates and Their Processing. H-26

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 79240.

Abstract: 100 x 8 x 0.4 millimeters and also new pipes from an evaporating apparatus of a diameter of 31/35 millimeters were placed into containers with 100 ml of 2% HCl. To that a corresponding amount of an inhibitor was added and the contents were heated for 2 hours at 50, 75, 95 and 100°C. The action of the inhibitor was determined according to the amount of dissolved Fe, for which purpose the strips were weighed before and after the treatment with acid. The experiments demonstrated that under industrial conditions, the best inhibitor (to prevent corrosion during hot acid treatment) for an evaporator is DBS. Its action depends only slightly upon the nature of the metal, but is considerably influenced by temperature.

Card 2/4

CZECHOSLOVAKIA / Chemical Technology. Carbohydrates and Their Processing. H-26

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 79240.

Abstract: In order to obtain good results, an increase in the inhibitor concentration was needed with an increase in heating temperature. Almost a complete corrosion prevention on the metal was achieved at 75°C. and an inhibitor concentration of 0.1% (from one square meter surface, 5.9 grams of iron was dissolved) and at 95°C. and an inhibitor concentration of 0.3% (8.4 grams from one square meter). Satisfactory results were also obtained upon vigorous boiling of the acid solution containing 0.4% of an inhibitor per volume of the solution. Among other inhibitors tested (squeezed pulp, wash, technical lactic acid, gelatine, glue), the most suitable was found to be a mixture of

Card 3/4

CZECHOSLOVAKIA / Chemical Technology. Carbohydrates and Their Processing. H-26

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 79240.

Abstract: HCl (50%) and technical lactic acid (50%) with the addition of 0.01% of As_2O_3 per volume of the solution applied in washing the evaporator.

Card 4/4

CIHAL, K

TECHNOLOGY

Periodicals: LISTY LUKROVARNICKE Vol. 74, No. 11, Nov. 1958

CIHAL, K: SCHMIDT, L. Dependence of heat consumption on digestion of the worked sugar beets. p. 247.

Monthly List of East European Accession (EEAI) LC Vol. 8, No. 5 May 1959 Unclass.

COUNTRY : CZECHOSLOVAKIA
CATEGORY : Chemical Technology. Chemical Products and Their Applications. Carbohydrates and Their Processing. H
ABS. JOUR. : RZhKhim., No 17, 1959, No. 62440

AUTHOR : Cihal, K.; Schmidt, L.
INSTITUTE : -
TITLE : Effect of Processed Beet Digestion on Heat Consumption.
ORIG. PUB. : Listy cukrovarn., 1959, 74, No 11, 247-254

ABSTRACT : Effects of changes in the digestion of Beets (DB) and quantity of juice removed on heat consumption of a sugar refinery were investigated. Factors affecting heat balance of a refinery were reviewed. Based on the chemico-technological and heat requirement data of 42 refineries for 5 year period, heat consumption per 1 ton of raw sugar was determined with corrections made for 100 randeman units and for the DB dependency. It was established that at certain refineries DB varied in the 15.06-21.03% limits, and the heat consumption varied

Card: 1/2

CIHAL, K.

"Basic concepts of mechanization and automation."

LISTY CUKROVARNICKE, Praha, Czechoslovakia, Vol. 75, No. 1, January 1959.

Monthly List of East European Accessions (EAI), LC, Vol. 8, No. 9, September 1959.
Unclassified.

CIHAL, V.; JEZEK, J.

Precipitate distribution in corrosion-resistant austenitic steels. p. 695.

HUTNICKE LISTY, Brno, Czechoslovakia, Vol. 14, no. 8, Aug. 1959

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 10
Oct. 1959.
Uncl.

CIHAL, V.; JEZEK, J.; VOBORIL, J.

Substance of phases formed in the structure of brittle-transformer sheet metal. p. 777.

HUTNICKE LISTY. (Ministerstvo hutniho prumyslu a rudnych dolu a Ceskoslovenska vedecka technicka spolenost pro hutnictvi a slevarenstvi) Brno, Czechslovakia. Vol. 14, no. 9, Sept. 1959.

Monthly list of East European Accessions (EEAI) LC, vol. 9, no. 1, Jan. 1960.

Uncl.

CZECH/34-59-11-13/28

AUTHORS: Čihal, Vladimír and Sekerka, Ivan

TITLE: Problems of Corrosion in Heterogeneous Nuclear Reactors

PERIODICAL: Hutnické listy, 1959, Nr 11, pp 978 - 984

ABSTRACT: The authors review briefly, mainly on the basis of published American, Russian and, to some extent, Czechoslovak (Refs 10,11,15,19,26) work, corrosion problems in carbon dioxide- and water-cooled reactors. J. Lazunov proposed a eutectic alloy of Mg and Ca, which has a higher resistance to oxidation than Mg, and it also has favourable casting properties. The most widely used materials for carbon dioxide-cooled reactors are Mg and Be alloys and alloy steels. Classical Mg alloys of the Magnox type are suitable for temperatures of 430-460 °C; for higher temperatures Be or stainless steels have to be used. Al and Ni alloys and Zircalloy-type Zr alloys have a satisfactory resistance to corrosion in water at 300 °C. Austenitic stainless steels have a very good corrosion resistance up to 360 °C.

Card 1/2

Problems of Corrosion in Heterogeneous Nuclear Reactors CZECH/34-59-11-13/28

There are 11 figures and 36 references, of which 7 are Czech, 18 English, 3 German, 4 Soviet, 3 French and 1 Swedish

ASSOCIATION: Státní výzkumný ústav ochrany materiálu G.V.Akimova, Praha (State Research Institute for the Protection of Materials (G.V. Akimov), Prague)

SUBMITTED: September 1, 1959

Card 2/2

CIHAL, Karel; NOVACSEk, Janos, dr. [translator] (Csehszlovakia)

Problems relating to the structural design and materials of of hydrocyclones. Cukor 11 no.8: 208-211 Ag'58

CIHAK, V.

A small atlas of the world; a book review. p.128 (Nova Technika, Vol.2, no.4, Apr. 1957) Praha

SO: Monthly List of East European Accession (EEAL) LC, Vol.6, no.7, July 1957. Uncl.

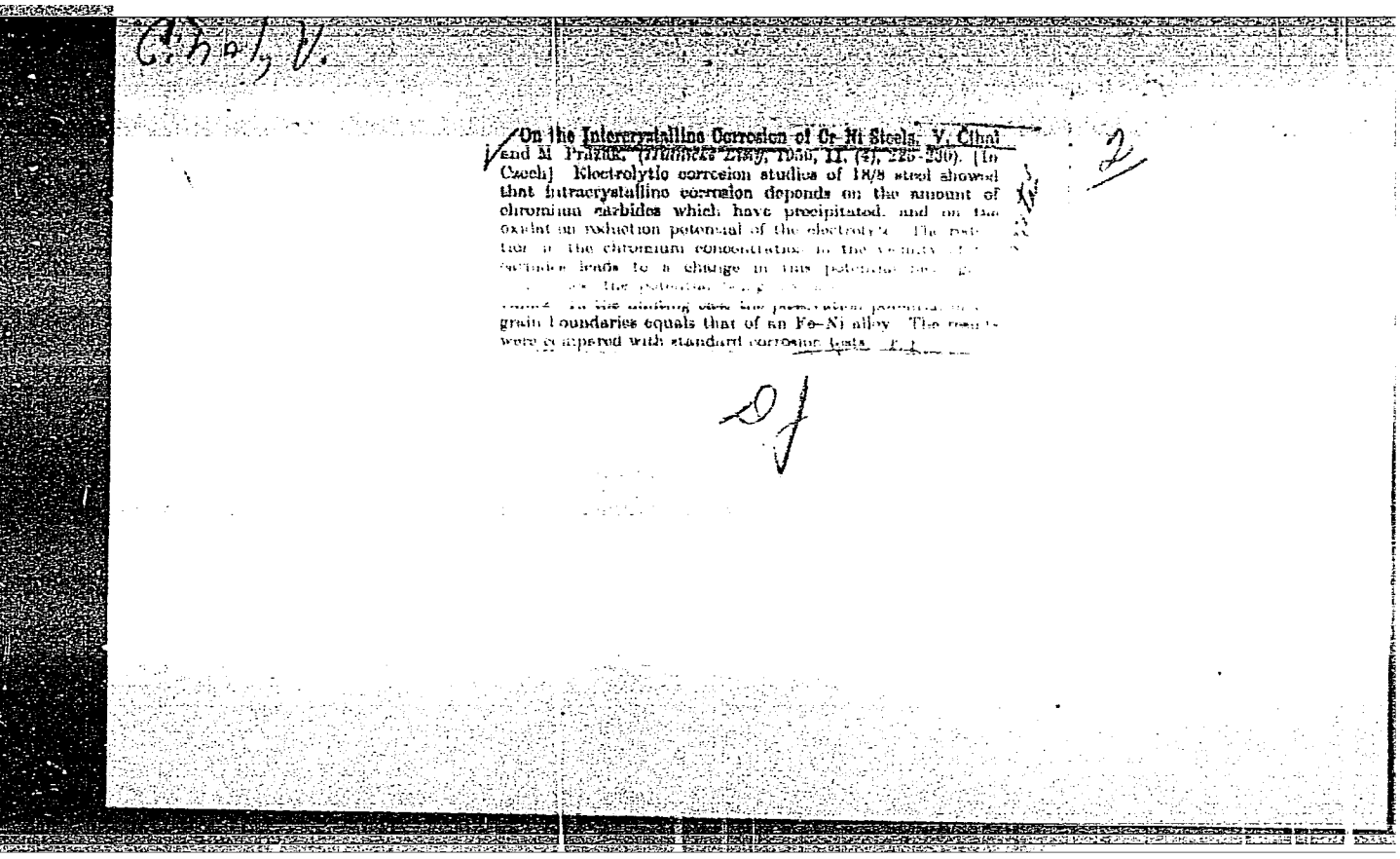
9

Carbide Precipitation in Corrosion-Resistant Titanium Stabilized Steels Type 18-8. [illegible] and [illegible]. (Problems and Properties of Czechoslovak Metallurgy and Foundry, 1956, 101–115). The kinetics of carbide precipitations are evaluated in regard to a study of intercrystalline corrosion. High homogenization temperatures partially destroy the TiC and precipitation takes place between 550–850° C. TiC precipitates at higher temperatures. Intercrystalline corrosion appears in presence of $Cr_{23}C_6$ apparently due to the higher diffusion rate of Cr at 750° compared with Ti. Isolated carbides were examined with X-rays, confirming the theory.

MT

The Morphology of Precipitates in Titanium-Stabilized Stainless Steels. V. Cihal and J. Jirek [illegible] 1960, 11, (3), 161-164. (In Czech) Results of an [illegible] micrographic study of carbide formation and [illegible]

650° C is the main cause of intercrystalline [illegible] carbide precipitated being $Cr_{23}C_6$. The simple cubic X-ray diffraction patterns of the various carbides isolated are considered. The phenomenon of "knife-edge attack" is elucidated in terms of the mechanisms studied.—P. F.



On the Intercrystalline Corrosion of Cr-Ni Steels. V. Cihal and M. Prášek. (Hutnické Listy, 1950, II. (2), 225-230). [In Czech] Electrolytic corrosion studies of 18/8 steel showed that intracrystalline corrosion depends on the amount of chromium carbides which have precipitated, and on the oxidant an reduction potential of the electrolyte. The latter in the chromium concentration in the vicinity of the carbides leads to a change in this potential [illegible] grain boundaries equals that of an Fe–Ni alloy. The results were compared with standard corrosion tests. [illegible]

CZECHOSLOVAKIA/Corrosion - Protection From Corrosion. J.

Abs Jour : Ref Zhur - Khimiya, No 2, 1957, 6859

required to bind the C, the amount of ferrite increases in such steels, and at temperatures somewhat below 800° the ferrite undergoes transformation into G-phase Rate of reversed separation of the thermodynamically more stable TiC is regulated a the slower rate of diffusion of Ti as compared with that of Cr. This takes place at more elevated temperatures. The greater the ratio of Ti to C, in the steel, and the less the steel is overheated at high temperatures, the less TiC is dissolve d in the solid solution, and accordingly, the chromium carbide particles formed within the dangerous temperature range do not form a continous network at the boundaries of the grains. Steel having the composition (in %): C 0.08, Mn 1.18, Si 0.88, Cr 18.24, Ni 9.25, Mo 0.21, Ti 0.80 and N o.003, hardened at 1350° and held at 550° shows thereafter a tendency to IC, which is associated with separation of carbides of chromium at grain boundaries.

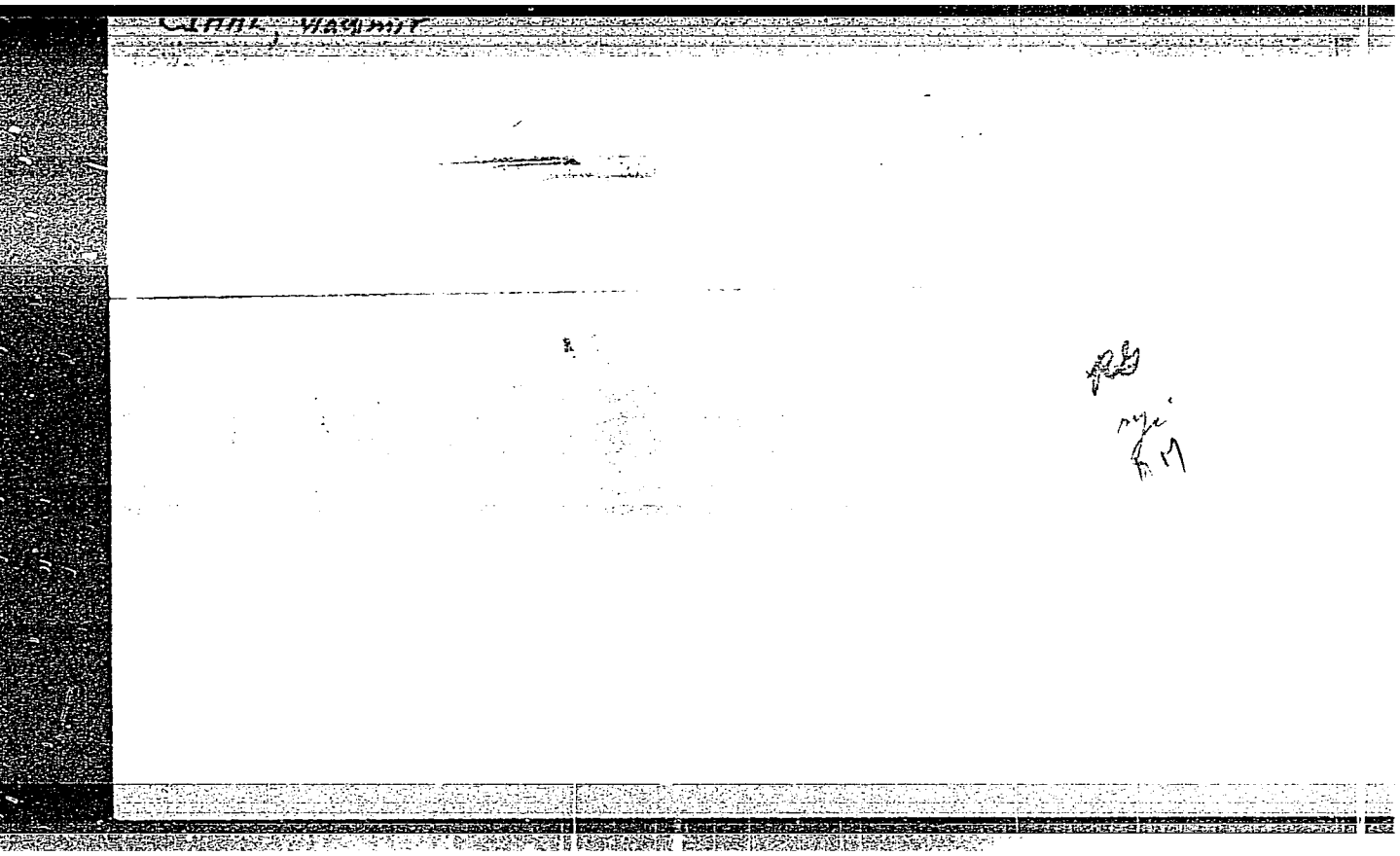
Card 2/3

CZECHOSLOVAKIA/Corrosion - Protection From Corrosion. J.

Abs Jour : Ref Zhur - Khimiya, No 2, 1957, 6859

Stabilizing anealing at 850-950°, resulting in separation of fine particles of TiC, precludes the tendency of steel to undergo IC.

Card 3/3



CIHAL, Vladimir

Examination of ferrite δ transformation in stainless steels with higher titanium content. Vladimír Cihal and Alfan Pražák (Výzkumný ústav materiálů, Ostrava, Alfan Prague). *Hutnické listy* 3, 230-42(1957). By etching in a controlled potential, the [illegible] steel was examd. by means of optical and electron microscopy. The ferrite [illegible] δ → austenite [illegible] the structure of the [illegible] polarization curves [illegible] 26 references.

Petr Schmidt

RC

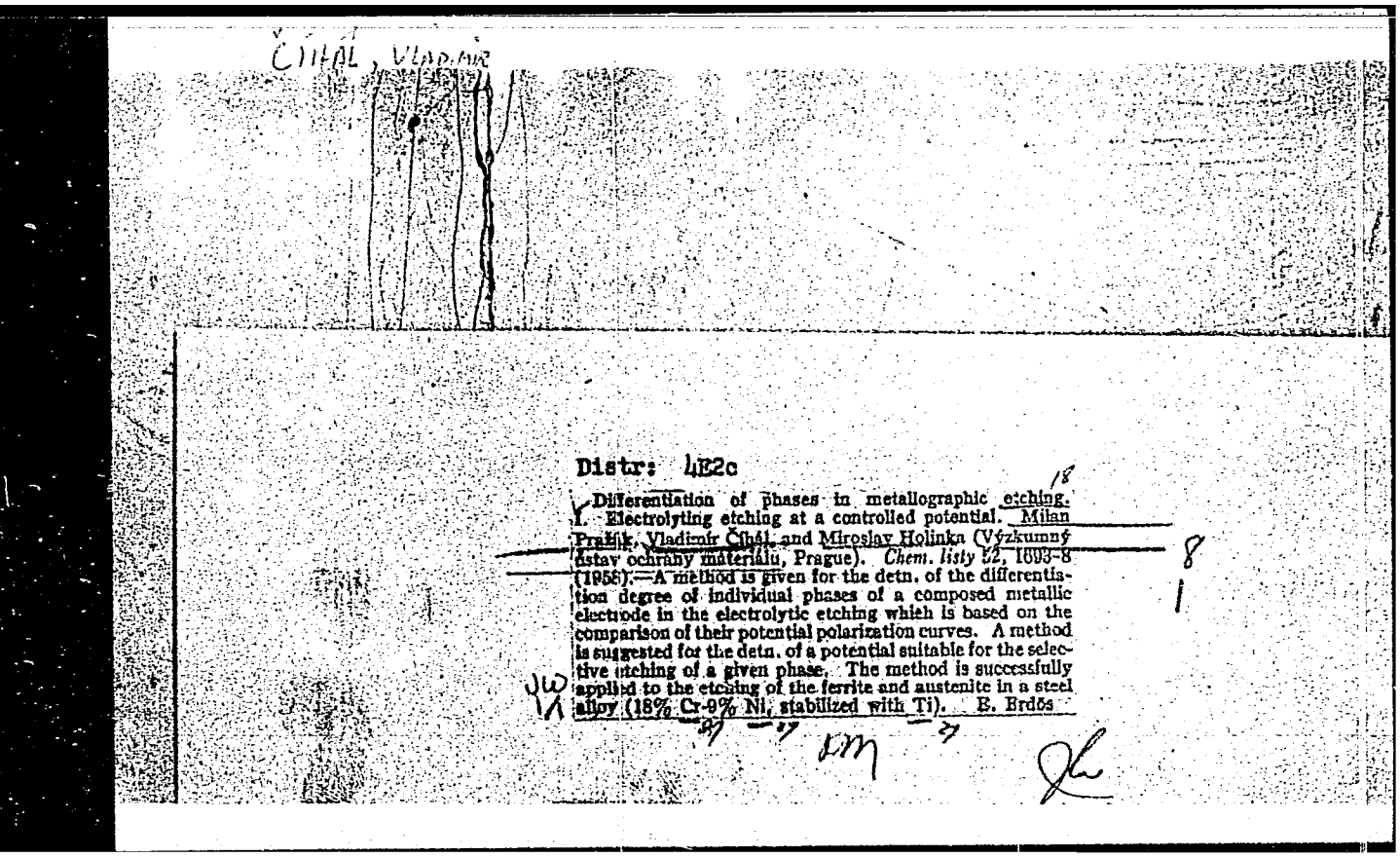
COUNTRY : CZECHOSLOVAKIA H
CATEGORY : Chemical Technology. Chemical Products and Their Applications. Corrosion. Corrosion Control
ABS. JOUR. : RZhKhim., No 17, 1959, No. 61195

AUTHOR : Cihal, V.; Pospisil, R.
INSTITUTE : -
TITLE : Effect of Niobium Stabilization on the Resistance of Stainless Steels Containing 18% Cr and 9% Ni,*
ORIG. PUB. : Hutnicke listy, 1958, 13, No 12, 1092-1098

ABSTRACT Con'd : Presented are basic thermo-chemical calculations. Resistance of the 18/9/Nb type steel to intercrystalline corrosion after thermal treatment at elevated temperatures (1 hour at 1250° or 10 minutes at 1320°) and consequent heating in the 550-850° temperature was investigated. It was established, that the main cause for intercrystalline corrosion was the dissolution of Nb and consequent formation of $Cr(CrFe)_{23}C_6$ carbides in

*With Regard to Intercrystalline Corrosion.

Card: 1/2



ČIHAL, VLADIMÍR

Distr: 4E2c

18

Differentiation of phases in metallographic etching. I. Electrolyting etching at a controlled potential. Milan Prášek, Vladimír Čihál, and Miroslav Holinka (Výzkumný ústav ochrany materiálu, Prague). *Chem. listy* 52, 1693-8 (1958).—A method is given for the detn. of the differentiation degree of individual phases of a composed metallic electrode in the electrolytic etching which is based on the comparison of their potential polarization curves. A method is suggested for the detn. of a potential suitable for the selective etching of a given phase. The method is successfully applied to the etching of the ferrite and austenite in a steel alloy (18% Cr-9% Ni, stabilized with Ti). E. Brdička

8
1

CIHAL, V.; PRAZAK, M.; MECHURA, J.

Effect of some alloying elements on the properties of austenitic stainless steel. Strojirenstvi 12 no.4:283-287 Ap '62.

1. Statni vyzkumny ustav ochrany materialu, Praha.

ACCESSION NR: AP3000089 Z/0034/63/000/005/0342/0349

AUTHOR: Cihal, Vladimir (Assistant Professor, Engineer, C.Sc., Prague); Jezek, Jaroslav, (Dr. of natural sciences, C.Sc.)

TITLE: Changes occuring in stabilized austenitic steels at high temperatures

SOURCE: Hutnicke listy, no. 5, 1963, 342-349

TOPIC TAGS: formation of carbides of Cb, Ti; influence of high temperature; influence of annealing; intergranular corrosion of stainless steels

ABSTRACT: The present article continues the work described by the authors previously (Hutnicke Listy, no. 5, 1956, 151-154 and 284-288; no. 12, 1958, 446 and 1092-1098). Studies of structural changes during annealing of stabilized austenitic stainless steels revealed the following: stable carbides of Ti and Cb are dissolved during heating to very

Card 1/3

ACCESSION NR: AP3000089

high temperatures and are precipitated upon cooling causing decrease in strength and elasticity, and start a tendency towards intercrystalline corrosion after having been heated to the critical temperature range of 500 to 800C. The intercrystalline corrosion is connected mainly with a precipitation of chrome carbide of the type M sub 23 C sub 6 at the edges of the grains, or in some cases by the carbide M sub 6 C. At temperatures of 650 to 850C thin fibers of carbides or carbonitrides of Ti and Cb are formed. The content of delta ferrite in steel structure increases with the increase of the stabilizing metals content and with the increase of the dissolving temperature. The brittleness of steel heated above 750C is due to change of ferrite delta to sigma below 800C. Steels with a high Cb content form Fe sub 2 Cb and Cb carbide at 750 to 950C. The carbide of the type M sub 6 C precipitated during heating of steels with high Cb content was identified as carbide of Fe, Cb or Fe, Cb, Cr. Fe sub 2 Cb dissolves at 1000C, while the carbide (Fe, Cb) sub 6 C dissolves above 1200C. The 2 substances mentioned above cause the loss of plasticity of Cb stabilized steels between 700 and 900C. "The study was made in collaboration with the SVUOM, the Jutnicky ustav CSAV (Metallurgical Institute) at Prague, the SONP, and the SVUMT at Prague; the authors thank all

Card 2/3

ACCESSION NR: AP3000089

those concerned for their help in its execution." Orig. art. has 14 figs., 7 tables.

ASSOCIATION: Statni vyzkumny ustav ochrany materialu G. V. Akimova, Prague (State Research Institute of Materials Protection); Vyzkumny ustav uslechtilych oceli (Research Institute for Stainless Steel), Prague

SUBMITTED: 00	DATE ACQ: 17Jun63	ENCL: 00
SUB CODE: 00	NR REF SOV: 015	OTHER: 016

Card 3/3

VYKLICKY, Miloslav; LOBL, Karel; KABRHEL, Adolf; TUMA, Hanus; CIHAL, Vladimir; PRAZAK, Milan

Effect of molybdenum and copper on the properties of chrome stainless steel. Hut listy 16 no.8:553-560 Ag '61.

1. Statni vyzkumny ustav materialu a technologie, Praha (for Vyklicky, Lobl, Kabrhel and Tuma). 2. Statni vyzkumny ustav ochrany materialu G.V.Akimova, Praha (for Cihal and Prazak).

CIHAL, Vladimir, doc. inz. CSc.; GROBNER, Pavel, inz. CSc.

Corrosion inhibition by melted eutectic Pb-Bi. Sbor VSB Ostrava 9 no.3:439-451 '63.

L 17499-63 EWP(q)/EWS AFFTC/ASD JD

ACCESSION NR: AP3001442 Z/0034/63/000/006/0454/0454

AUTHOR: Ilincev, G (Engineer); Cihal, V. (Engineer) 61 60

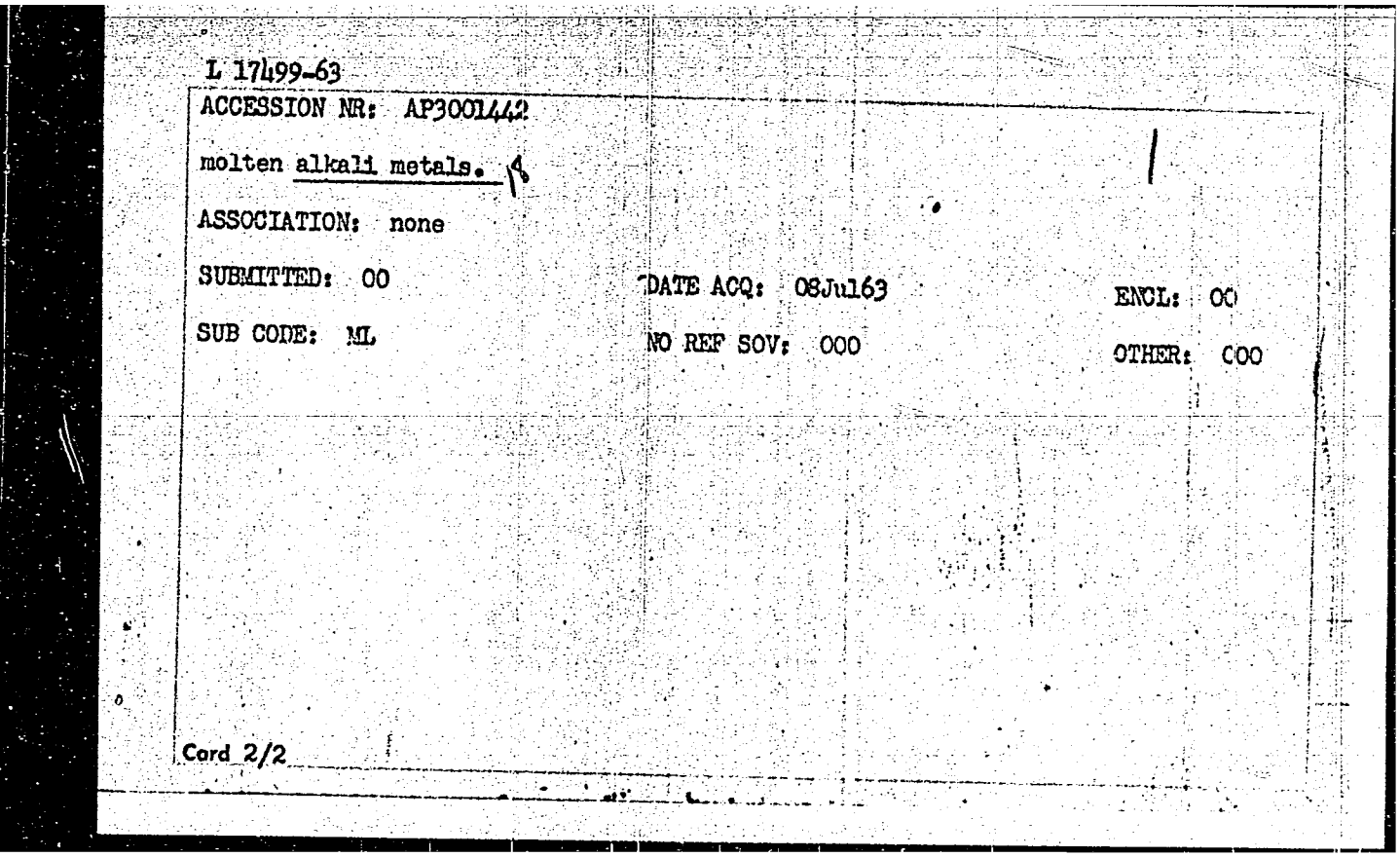
TITLE: Method of stabilizing ferritic steels

SOURCE: Hutnicke listy, no. 6, 1963, 454

TOPIC TAGS: ferritic steel, steel stabilization, carbide, alkili resistance

ABSTRACT: The article is a review of Czech patent application PV 2539-61. Steels stabilized according to the invention show increased resistance to alkali metals. Stabilization is effected by using alloy metals: Cb, Zr, Ta, Th, Cr, V individually or in any combination. The stabilization of low-carbon steels is due to the formation of carbides that are thermally stable. The carbides formed are: CbC, Cb sub 4 C sub 3, TiC, ZrC, TaC, Cr sub 3 C sub 6, VC, V sub 4 C sub 3. When a sufficient quantity of the alloying metals is present iron carbide is not formed, and thus intercrystalline corrosion is prevented. Melted alkali metals do not extract carbon from such alloys. Not only is decarbonization prevented but the alloying metals resist corrosion of the steel by forming a thin layer of oxides, carbides and possibly nitrides on the surface. The prevention of corrosion entails the maintaining of the mechanical properties of the original steels in the presence of

Card 1/2



L 17499-63

ACCESSION NR: AP3001442

molten alkali metals.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 08Jul63 ENCL: 00

SUB CODE: ML NO REF SOV: 000 OTHER: 000

Card 2/2

CIHAL, V.; KUBELKA, J.

Corrosion cracking of steels in nitrates. Strojirenstvi 13 no.11:837-843 N '63.

1. Statni vyzkumny ustav ochrany materialu, Praha.